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ABSTRACT

Recently there has been an increasing interest in the development of children's impressions of stories, partially due to the work of theorists who have proposed formal grammars representing structural characteristics of stories. In order to learn more about children's narrative competence, stories they produced were analyzed in three experiments. The pictorial sequences from the picture arrangement subtest of the Wechsler Intelligence Scale for Children-Revised (WISC-R) were used as a structural context to elicit stories from the subjects. These were also used to constrain the pragmatic and imaginative aspects of the story telling task so that particular structural aspects could be examined uniformly across different age groups, and to provide a first step in assessment of the underlying psychological properties related to successful performance. In experiments one and two, 12 students each from second and seventh grade and 12 college students were given the subtest individually and were asked to produce an oral story. In the third experiment, 12 seventh graders and twelve college students were administered the subtest and were asked to produce a written story. Overall, the findings indicated that (1) children dwell on overt characteristics of events, avoid discussion of character motivation, and ignore logical connectivity, while adults embellished these--particularly in the written stories; (2) the inclusion of a goal statement was much higher than the inclusion of a reaction statement for all subjects; and (3) the event structures of the WISC-R picture sets vary considerably. (A sample picture arrangement task and two versions of a corresponding story are appended.) (CRH)

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Investigating Children's Story Productions

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Recently in the fields of psychology, education, and linguistics there has been an increasing interest in the development of children's impressions of stories. The interest in narratives is partially due to the work of theorists who have proposed formal grammars representing structural characteristics of stories (Stein & Glenn, 1979; Rumelhart, 1975; Thorndyke, 1977). Story grammars describe logical sequences of purposive behavior and specify categories of information and the logical connections that exist between statements in a story.

Past work utilizing various story grammars has focused on the way that stories are structured and on the types of story information children understand and remember. The purpose of the present research, however, was to learn more about children's narrative competence by analyzing the stories they produce. Specifically we were interested, among other things, in how children view character motivation, how they develop logical sequences, and what information children deem necessary to share with their audience when they generate stories. In order to examine these types of qualitative changes in student's story productions we utilized a simplified story grammar analysis similar to the one posed by Glenn and Stein (in press).

Another important characteristic of our work is that we have utilizied a highly structured context to elicit stories from students. Unlike the work of past investigators (Glenn & Stein, in press; Botvin & Sutton-Smith, 1977), where children generated stories without prompts or at most when given a story fragment to complete, we have employed pictorial sequences from the Picture Arrangement subtest of the Wechsler Intelligence scale for Children-Revised (1974), a widely administered individual intelligence test. A representative picture set

is on your handout in Figure 1. In all there are 12 picture stories ranging from very simple sequences (e.g., 3 pictures) to more complex sequences (e.g., 5 pictures). When this subtest is given during an assessment, the child is shown a randomly sequenced version of each set and is asked to arrange the pictures to make a sensible story in order from left to right. We presented the task in this manner (as a sequencing task) for one study but also used the correctly arranged picture sets as the prompts to elicit stories from children.

Our rationale for using this picture arrangement task was twofold. First, we wished to constrain the pragmatic and imaginative aspects of the story telling task so that particular story structure aspects could be examined uniformly across students of different ages. Secondly, we hoped to provide a first step in the assessment of the underlying psychological properties related to successful performance on the picture arrangement sequencing task. Eventhough claims have been made that successful performance on this subtest is related to the ability to comprehend logical sequences in a story, to our knowledge no one has collected information on the way children do represent these picture stories in language or the relationship such verbal representations play in successful sequencing performances. The WISC manual, however, is replete with suggestions and hints about this matter and the test is used with thousands of school children each year. So, information about the verbal propositions elicited by this picture task is of scientific and practical importance.

We expected that developmental sensitivity to the organization of the picture stories would surface in the types of stories generated from the pictures.

There are multiple reasons to expect this outcome, ranging from evidence about the acquisition of richer narrative "schemata" as children move through the school years (Stein & Glenn, 1979), to evidence of how children acquire a more complex understanding of theme, characterization, and plotting in stories (Botvin & Sutton-Smith, 1977).

Additionally, we were interested in whether there was any relationship between the way students described the correctly sequenced picture stories and their skill at sequencing them correctly. One might expect that the better the quality of the student's underlying representation of the story, the more facility (s)he will evidence in organizing its pictorial form.

Finally, we also considered two important task characteristics which might influence the quality of the stories produced. The first one was student's prior familiarity with a canonical or highly general story form. Some individuals, particularly younger children, may not have much experience in telling formal short stories to listeners. As a result, they may fail to have a clear sense of how to tell a simple and informative story. So, providing these children with a clear example of a well formed narrative might enhance the subsequent quality of the stories they construct.

The second task characteristic is the mode of the story production whether it is in oral or written form. There is a large body of literature in the fields of linguistics, psychology, and education documenting the differences between the oral and written tradition of discourse (Olson, 1977). For our purposes, here, we might expect story telling to be more logical in its written form - dwelling on the inherent cause and effect nature of things and connecting one thought with another - than in its oral form. Thus, more sophisticated stories might be anticipated when written productions are elicited.

To test the above ideas, a series of three experiments were designed. In experiment 1, a group of second- and seventh-grade school children and a group of adults produced oral stories to each of the 12 picture sets in the WISC-R picture arrangement task. In addition, we sought to examine the relationship between a child's story production and performance on this scale. So, one week prior to their story production, all children were individually tested with the standard version of the WISC-R picture arrangement (sequencing) task. Experiment 2 constituted a partial replication of experiment 1, calling upon a new group of 2nd and 7th graders and adults to produce oral stories to all 12 stories, again. This time, however, instead of hearing the example story as presented in the WISC-R Manual, the students heard a brief example story drawn from story grammar theory (e.g., Stein & Glenn, 1979) along with the WISC-R example picture set prior to producing their stories to the 12 picture sets. By providing a canonical story example to the children especially, a model was made available which might serve to enhance the impoverished productions of the first experiment. In experiment 3, a third group of subjects - seventh graders and adults wrote stories for a randomly selected subsample of the 12 picture sets - the same example used in study 1 was given to the subjects. (Each subject wrote from 4 to 6 stories.) Comparisons to the earlier findings of experiment 1 would allow us to uncover possible differences associated with oral and written productions.

Subjects

In each of experiments 1 and 2 there were thirty-six students, twelve students each from second- and seventh-grade and twelve college students. In experiment 3 there were a total of twenty-four students, twelve from seventh grade

and twelve college students. The children were sampled from two middle class schools in the Madison, Wisconsin area. Adults were volunteers recruited from classes in educational psychology.

Procedures

In all experiments, students were tested individually. The picture sequences were presented one after the other following brief instructions. There were no time restrictions; students were given as much time as needed to generate a story. All orally produced stories were tape recorded. The students in experiment 3 who wrote stories were given sheets of lined paper. In experiment 1 children were also administered the formal picture arrangement task with the WISC-R Picture sets and generated oral productions one week later.

In experiment 1, students were shown the example picture set from the WISC-R and read the corresponding story example taken from the instructions in the WISC-R manual. The students were then asked to tell their own stories that went with the remaining picture sets. The pictures were arranged in front of each student from left to right in the correct order (prescribed by the WISC-R manual). The order of presenting the different picture sets was the same as the one recommended in the test manual.

The students in experiment 2 were shown the same example picture set but were read a different story. The story was composed of seven sentences that correspond to the narrative grammar used by Stein and Glenn (1979), with one proposition from each category of the grammar (see Figure 1). After listening to the example story the students were asked to tell their own stories for the remaining picture sets.

The instructions and example used in experiment 3 were exactly the same as

in experiment 1. In this case, however, the students were asked to write out their stories. No attempt was made to have second grade children write out their stories, since we worried about the limitations in their vocabulary and writing skills.

Results

The transcribed story protocols (experiment 1 and 2) and the written stories (experiment 3) were subjected to two types of analyses. One analysis focused on the completeness of the stories - a measure based on the presence of statements that captured the central literal meaning of each picture in a set. A panel of adult judges specified a list of propositions or ideas required to represent each picture set completely.

A second analysis focused on whether the stories contained mention of cognitive events in the character(s) which would explain their actions and feelings. Specifically, judges rated each story for the presence of two categories of information described in the Stein and Glenn (1979) grammar - a Goal or Reaction. A Goal statement pertains to the desire, motive, or goal of a main character. The presence of a goal serves to unify the story by providing a goal - directed rationale for the protagonist's behavior. A Reaction statement consists of any mention of how a character felt during any part of the sequence. It could be an emotion, cognition, or endstate expressing feelings about the character's goal attainment. A student received a score of 1 or 0 for each of these measures to reflect inclusion or non-inclusion in each story. The interjudge agreement for all measures equaled or exceeded .85.

Separate analyses were performed on each measure for each study. Planned comparisons were conducted to test for differences between the age levels. The

α level was set equal to .05 for each comparison tested. The results are presented in Table 1 as percentages or proportions of stories that contained Goals and Reactions, and that were scored as Complete. In all three experiments significant age differences were observed. However, the locus of the age shift differed in the studies and on the different measures.

Conclusions

Briefly the major findings are as follows. As we had expected there were qualitative differences in the types of stories produced at different ages and our "experimental manipulations" across the three studies had some influence on altering the types of stories produced.

Beginning with the oral productions in experiment 1, the most striking result is that children's stories (2nd & 7th grade) had a remarkable absence of character motivation. They rarely mentioned internal reasons behind the character's actions - rarely offered clear statements regarding the characters goals or commented on how the character felt. Children's stories were more fragmentary, incomplete, and devoid of "cognitions" to tie the diverse elements together than those of adults. The qualitative differences between the 2nd and 7th grade children were not significant. One interesting aside, however, was that the average story length of the second graders did exceed the average story length of the seventh graders. Longer, however, did not also mean more sophisticated.

The children in this study, seemed to create stories as "reactive chains." That is, a child would show little evidence of connectivity, or appreciation of the logical necessity or thematic integration of the elements: it would not be a great exaggeration to say that the stories for them, were little more than

chains of descriptions of isolated picture events. The adults stories offered much more, they were richer in temporal and logical connectives, and thematic statements as well as overall goal and reaction statements. Although not significant, there was a trend for the best stories among the children to be predictive of the WISC-R sequencing performance.

The use of a canonical example story in study 2 increased the sophistication of children's story productions. Although no across study comparisons were performed, an examination of the percentage of stories including goals in each experiment suggests that all students included more character motivation and feelings when the model story had been presented. The adults again outperformed the second graders on all measures. The seventh graders' and the adults' story productions, however, were more similar. In fact the seventh graders produced as many complete stories as the adults. Furthermore, the stories produced by the seventh grade students after listening to a canonical story example included more goal statements than the second grade students. Thus, it appears that the oldest children were more likely to take significant advantage of the instructional set and story model to improve their story sophistication.

Finally, as we had expected, the opportunity to write stories in the third experiment improved both the adult and the 7th grade student's inclusions of character motivation. The adults also increased their tendency to embellish the story with the character's feelings and produced more complete stories than the seventh graders. Written stories were generally more advanced and seemed more causally related than the oral stories generated in experiment 1. This observation was supported by a subsequent analysis in which the written stories

were found to contain a greater average number of logical connectives per story than the oral versions from the first study.

Summary and Discussion

What have we learned then from this exercise of collecting stories from children and adults? At least 3 separate things we think. First, there are some striking changes from early childhood to adulthood in the types of stories produced spontaneously. Children tend to dwell on overt characteristics of events, avoid discussion of character motivation and ignore the need for logical connectivity. Adults do just the opposite and older children are more likely to change their stories toward adultlike forms given the appropriate task demands and illustration.

Second it appears that the salience of the categorical distinctions outlined by the Stein and Glenn story grammar has received further support in yet another response situation -- that is story generation. The results of the study certainly suggest that the most salient categories of information in recall -- those related to the goal directed event sequence -- are also more likely to be included when a story is generated. That is for all students, the inclusion of a goal statement was much higher than the inclusion of a reaction statement.

Finally, we discovered some peculiarities in the WISC-R picture arrangement items. For one the implicit assumption that the last six stories represent more difficult items was not supported by an increase in the complexity of the narratives produced. If we construe the adult stories as good representations of what the WISC items depict, it is clear that the event structures of the picture sets vary considerably. It was somewhat alarming to us that no formal prose system we tried did a good job of capturing the representations of the

story sets. The irregularity of these items may also explain in part the lack of relationship between a child's verbal description of the picture story and his/her ability to sequence it properly. Thus, in some of our current work, we are trying to create some of our own idealized picture stories and are reworking some of the WISC-R items. In addition we are further examining the types of structural changes evidenced using a more well defined text based system.

We are also going to make this data base available in the form of a center publication so that individuals pursuing similar lines of research will have available a substantial number of stories for further comparisons (992 stories).

Experiment 1 & Experiment 3

Example Story from WISC-R Manual

First, the lady is walking toward the scale. Then she weighs herself. Finally, she walks away.

Experiment 2

Example Story Corresponding to a Canonical Story (Stein & Glenn)

One day Mabel passed a scale on her way home from shopping. She decided she better find out if her diet was working. She stepped up onto the scale and put her money in. The scale showed she had gained weight. Mabel was surprised at first, but then she thought it must be a broken scale anyway.

Figure 1. Example picture sequence for WISC-R Picture Arrangement task with two versions of a corresponding story.

Table 1

Percentages of Stories that Contained Goals, Reactions, and that were Complete for Second-, Seventh-Graders, and Adults in Study 1, 2, and 3

	Goals			Reactions			Completeness		
	2nd	7th	A	2nd	7th	A	2nd	7th	A
Study[a] 1	.38	.45	.55	.06	.05	.29	.37	.29	.64
Study[a] 2	.58	.75	.86	.35	.37	.64	.27	.50	.58
Study[b] 3	-	.73	.78	-	.12	.69	-	.22	.45

[a]Total number of stories = 144 (i.e. 12 students x all 12 stories).

[b]Total number of stories = 64 (i.e. 12 students x (4-6) stories).

References

Botvin, G.J., & Sutton-Smith, B. The development of structural complexity in children's fantasy narratives. Developmental Psychology, 1977, 13, 377-388.

Olson, D.R. From utterance to text: The bias of language in speech and writing. Harvard Educational Review, 1977, 47, 257-273.

Rumelhart, D. Notes on a schema for stories. In D. Bobrow and A. Collins (Eds.), Representation and understanding. NY: Academic Press, 1975.

Stein, N.L., & Glenn, C.G. An analysis of story comprehension in elementary school children. In R.O. Freedle (Ed.), Discourse processing: Multidisciplinary perspectives. Norwood, NJ: Ablex, 1979.

Stein, N.L., & Glenn, C.G. Children's story production. To appear in S.R.Yussen (Ed.), The growth of reflection. NY: Academic Press, in press.

Thorndyke, P.W. Cognitive structures in comprehension and memory of narrative discourse. Cognitive Psychology, 1977, 9, 77-110.

Wechsler, D. Manual for the Wechsler Intelligence Scale for children-revised, NY: The Psychological Corporation, 1974.